

410 ASPHALT-RUBBER STRESS-ABSORBING MEMBRANE

Stress-absorbing membranes containing asphalt-rubber mixtures are used as an interlayer under asphaltic concrete pavement or as a chip seal coat. A stress-absorbing membrane is designed to seal cracks with a strong, resilient material that will absorb the future crack movement without the membrane breaking or deteriorating. The Standard Specifications for the work are quite detailed and should be followed closely. The Special Provisions for stress-absorbing membrane will identify the asphalt-rubber type and the placement dates. The Inspector should not confuse Special Provisions for a "Prefabricated Membrane" (for bridges) with those for a "Stress-absorbing Membrane" (for roadways). They have similar names, but they are different products and have different specifications.

Stress-absorbing membrane requirements are similar to chip seals, but there are differences that must be carefully adhered to. Proportioning of the rubber, asphalt, and extender oil must be done carefully. Chips must be saturated surface dry (SSD) and pre-coated with asphalt cement; never wet the chips for dust control.

Covering the asphalt-rubber with chips and initial compaction must be done in the least possible time. The timing of the asphalt chip rolling operation is even more critical than with a regular chip seal and there are time and temperature limitations that must be adhered to (refer to Table in Section 410-3.04 of the Standard Specifications). The asphalt-rubber is very sensitive to temperature variations and can be placed only at certain times of the year, dependent on elevation. If the various steps in the operation are not timed correctly, there probably will be a loss of chips. Unlike a regular chip seal, the membrane requires approximately a 4-inch (100 millimeter) lap of the longitudinal joint.